



Ugandan farmers being lectured on urban farming. Photos by Andrew Masinde

By Andrew Masinde

Technological adaptation in agriculture in Uganda is low. Agriculture is the backbone of Uganda's economy and yet more than 85% of the total population depends on farming as the main source of livelihood.

Despite the enormous contribution of agriculture to Uganda's GDP, many farmers still practise subsistence farming. This practice limits farmer's ability to increase production and productivity and access markets for his produce.

To broaden some of the farmers' minds into modern farming, leaders from Karamoja region and various parts of the country were taken to Israel for an agricultural and religious tour organised by the Office of the Prime Minister (OPM) through the third northern Uganda Social Action Fund (NUSAF 3) in partnership with AgroMax Uganda Limited, an agribusiness that supplies innovative and sustainable agricultural solutions to farmers.

According to Alfred Odera, the operations specialist at the OPM, the trip was aimed at helping farmers and leaders, especially in Karamoja to study agricultural practices in Israel for adoption in Uganda.

The group included eight farmers from Karamoja, plus 16 farmers from other parts of the country.

Rony Oved, the director of AgroMax, says Uganda has the potential to feed not only East Africa, but also the entire world.

"Ugandans must learn, appreciate and take up modern technologies in agriculture if this potential is to be achieved. The trip is an eye opener for the farmers to realise that they are wasting valuable resources in Uganda compared to Israel that is a desert," Oved said.

Israel is a major exporter of fresh produce and a world-leader in agricultural technologies despite the fact that the country is not naturally conducive for farming. More than half of the country is a desert.

Only 20% of the land area is naturally arable. While farm workers made up only 5.7% of the work force, Israel produces 95% of its food requirements.

In Israel the group visited a number of agricultural ventures and were trained in various practices of modern agriculture.

Ventures toured

At Kibbutz Almog in Jericho and Shaar Hagolan Farm, the farmers were ushered into large mechanised areas in preparation for planting. Here the farmers were trained on the best ways to prepare the land and mechanised tillage application using tractors, among other activities.

The group also visited the Salad Trail; a km with high vegetable production in green

Israeli desert farms



A farmer admiring a vegetable garden

Israel is a major exporter of fresh produce despite the fact that only 20% of the country's land area is naturally arable

houses. The farm uses bumble bees (bio-bee) for pollinating crops, especially the cherry tomatoes.

At the Salad Trail, the farmers were trained on how to grow strawberries in plastic bags suspended above the ground level.

Tamir Yosef, one of the farmers at the farm, says the cherries are grown in a raised format to help keep the fruits clean and to protect them from insects.

The group was also trained on how to use drip irrigation, a system that is believed to regulate water utilisation. Yosef said the plant gets only the water it needs and the rest is stored for another period.

The group was later introduced to urban agriculture (educational project for greening the town), located at the roof top of the biggest shopping mall at Tel-Aviv city.

Unlike in many areas where shopping malls are strictly for shopping, here they are using the roof top to grow vegetables (using water enriched with fertilisers).

Here they are raising tree seedlings and ornamental trees in plastic buckets for greening the city.

They also use vent pipes for latrines as gardens and they are growing cabbages, onions and other crops.

There are also small green houses where crops are grown and one does not need to have acres of land to produce food in a green house.

The group also visited banana farms that employ drip irrigation to minimise water wastage. All the banana plants are connected with plastic tubing through which water travels from its source to drip emitters.

According to Oved, drip irrigation waters plants with controlled delivery of water directly to the ground.

"Tubing is weaved throughout the area requiring watering. Hence, drip irrigation systems can be moved and are not permanent like conventional irrigation systems," he says. The entire plantations are covered with nets. The owners say the nets control the wind from destroying leaves since they are used for photosynthesis, reduce transpiration hence minimizing the use of water for irrigation.

Bunches of bananas on stems are also covered using polythene bags to provide adequate warmth for earlier fruiting. This improves the quality of the banana and also protects them from birds.

"The bananas needed on the market have to be free from any damages that is why we ensure that they are covered properly," Mamirov Omer, a farmer, says.

At Shaar Hagolan Farm, the farmers were introduced to apirary. Unlike in many places where bees are raised for honey, here the bees are raised to promote pollination and increase yield.

The farm also integrates apirary with crops and vegetables, tree seedlings and ornamental trees production, among others. At the same farm, the farmers also visited an avocado production.

According to Shai, the farm has over 100 acres and they harvest two tonnes per acre of an acre and 650 tonnes for 100 acres. To ensure mass production, pruning is done to increase life span.

The farmers also visited a date palm farm. Dates are common in Israel because they grow well in desert climates, where average rainfall is less than 3 inches per year, and summer temperatures reach nearly 120 degrees.

The group also visited Ramat village. Here they were trained on tomato breeding using

WHAT OTHERS SAY

Andrew Mapala, Moroto district chairperson

After the trip, I believe what happens in Israel can also happen in Karamoja. It would be an understatement to compare the two because Israel is a desert and Karamoja has fertile soils and rainfall. With proper management, Karamoja can even produce more food than Israel.

Jimmy Odera, district chairperson Abim

We do not need intensive research the way the Israelis did because

in Uganda we have everything that is needed to do farming.

Dr. John Logwe, district veterinary officer Kaabong

The trip has enabled me to learn about biological control of pests; predatory insects/birds and sterile insect technique. Israel is a desert and they are producing food that they export to other countries, including Uganda which has fertile soils and fresh water for irrigation.



The farmers learning how to feed dairy cows

wow Ugandans



Ugandan farmers learning how to grow strawberries during the trip to Israel

Training in dairy farming

manual removal of pollen to expose stigma for cross pollination.

At the same farm, the farmers visited an animal feeds milling plant, which is an extension of Ramat village. It produces feeds for local livestock. The mill produces 2,000 tonnes of feeds per month, Ron Dotav, a farmer, says the feeds are not sold, but used on the farm.

The farm also has a poultry production project.

"They also visited the Agricultural Kibbutz, where people came together to farm as a community."

The group also visited an organic farm, with greenhouses for production of vegetables, production of humble bees for pollination, biological control of pests and production of strawberries.

The group noted that the trip was beneficial, promising to implement everything they have learnt in Uganda.

Some promised to use their powers as leaders to influence their communities to practice proper farming.

At Kibbutz Almog in Jericho and Shaar Hagolan Farm, the farmers were trained in dairy production. The farmers were advised to always ensure that cows are handled with care.

All the cow houses have large fans. This is the most effective option for reducing air temperature and also making the cow's comfortable while feeding.

The group was also trained on how to feed cows using hay and silage, how to preserve pasture in preparation for dry seasons and how to mix feeds.

Silage and hay are preserved feeds that come in handy for dairy cows during periods of scarcity. For Karamoja where herdsmen move in search for pasture, hay and silage could be a timely solution.

The farmers also got a chance to see automated milking of dairy

cattle. The milking process is the collection of tasks specifically devoted to extracting milk from the cows.

Shai Lifshitz of Kibbutz Almog says the process may be broken down into several sub-tasks. These include collecting animals before milking, routing animals into the parlour, inspection and cleaning of teats, attachment of milking equipment to teats and massaging the back of the udder to relieve any milk held back, extraction of milk, removal of milking equipment and eventually routing animals out of the parlour.

"The process reduces on milking costs and the milking frequency may increase to three times per day. Elective milking schedules reduce cow stress and allows greater scope for data collection," he said.

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